The Training School **Bulletin**

"For the practicing professions concerned with mental retardation"

EBRUARY, 1959

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1. Articles of a technical nature, e. g., reports of research, discussion of problems in the field.
2. Non-technical articles of general interest, e. g., human interest stories of the mentally retarded, restatements of technical material for the layman.
3. Book reviews and news notes.
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The Mentally Retarded Child

In spite of a good deal of lip service to and a considerable amount of honest comprehension of the desirability of not treating mental retardation as though it were a single entity disease, we still find the majority of articles in the field referring to THE mentally retarded child in their discourses. The idea that the condition known to us as mental retardation is a resultant one from a number of contributory factors which vary from case to case is evidently still an idea.

Not only do we not clearly understand the factors which importantly affect the variations of organization of these constellations of contributing factors, but we even have trouble naming them satisfactorily so that we all talk about the same thing when one is mentioned. Obviously any attempt at understanding the coordinate relationships in such a constellation of factors affecting a certain child is still a considerable distance away.

A certain number of items can be uncovered by tests used in various professional fields. Very commonly a report by a specialist on a case of mental retardation highlights those of his particular area of work but attempts to synthesize the results of these tests often do not add up to a good understanding of why or how a certain person is retarded.

In the early years, unless physical manifestations are obvious, diagnosis is precocious at best. Many cases are unrealized almost until admission to school. Ranges of growth and competency in children of normal intellect are so wide at any age that it takes a discerning and honest parent to discover minimal levels of accomplishment in many things, which situation begins to produce inklings that all is not well.

For years we have experimented in studies wherein we compared the "exogenous" and the "endogenous," the "familial" and the non-familial," the "inherited" and the "brain-injured," and the "psychogenetic." We realize that these classifications are too broad, that in spite of differences observable between the groups, there is little that can be utilized in definitizing distinctions between individuals so that good prognoses could be made and proper programs of treatment and training be set up for them.

So we must be patient a while longer until our thinking can bring to light more specific factors which can be isolated and grouped and studied in various combinations. As much as we would like it and as high as parents' hopes can rise, it is doubtful that a single panacea will be discovered, like a Salk vaccine, to answer the problem. More likely a number of dedicated workers in many places will gnaw at the edges and gradually cause the obstacles to disintegrate.

In the meantime, we should try to be as explicit as possible in delineating the condition of the mentally retarded child or group of which we are talking and, if for psychological reasons alone, avoid like a plague referring to THE mentally retarded child.

Problems of the Practitioner

Not too many years ago there were few parents willing to admit to having a mentally retarded child and few professional workers sufficiently interested and dedicated to spend much time and effort working with the child. It was in 1929 that The Training School started its eleven year investigation on problems of brain-injured children, particularly known as the Babbit Hospital Project, with the assistance of such people as Dr. Winthrop Phelps of Johns Hopkins, and Dr. Harry Bice of the New Jersey

Crippled Children's Commission, in addition to its own staff. As the existence and frequency of non-inherited causes for mental retardation were revealed, others became interested. The work of Dr. Alfred Straus and Dr. Hans Werner at the Wayne County (Michigan) Training School was indicative of the interesting and influential studies which began during that decade to make the nation aware that the majority of these cases was not due to inheritance.

In the long, slow, and painful progress in bringing to light more facts which would increase our understanding of mental retardation, this represented one more break through the blackness that surrounded efforts in the field, albeit a most provocative one. Undoubtedly World War II postponed the effects that the realization of this information would have on the parents of these children.

Soon after the War it became apparent that this knowledge freed the parent of the guilt feelings naturally surrounding his previous concerns of heredity causation of his child's retardation. It enabled parents with normal and superior intellectual capacity to apply these abilities to the understanding of mental retardation, to the awakening of other parents to the casting off of previous emotional shackles which had bound their thinking and actions where their child was concerned, and to recognize the opportunities for collective organization to provide more services and help for their children.

In the meantime the relatively few professional workers in the field who were engaged in research continued their laborious efforts to discover still more about mental retardation. To date not too much had been revealed, especially of a practical nature, and it did not take the awakened intelligent parent very long to understand what was known.

However, he also captured the picture of the hopes of these investigators and the challenge of the first possibility of prevention which came through an understanding of the non-inherited causes of the condition. The result brings us face to face with his expectations of progress toward these things, progress NOW or at least in the near future. This is most beneficial insofar as it directs money, and people to assist in the work, but it still remains a slow, persistent toil which probably will yield but small advances from time to time.

This leaves the practising worker between the slow accretion of information on which to base the formation of techniques to use with these children and the pressures of the parents whose hopes and fears are raised and lowered periodically as some small advance is exaggerated in importance too greatly and too soon. This is an unenviable position for the worker but one which must persist until more attention to the field brings more knowledge to light.

In the meantime the hopeful parent must understand this situation and the enthusiastic professional worker must present his findings in their proper perspective.

Out-Patient Clinics

We are particularly happy to note the additional out-patient services offered by our Clinics in the form of speech and hearing therapy. Southern New Jersey is poor in many of the services our O-P Clinics offer and expansion of this type should be of great help to individuals and agencies in the area. At the moment, diagnostic services are also offered by psychiatric, psychologic, educational, speech and hearing, and allied fields on both free and paid bases.

Perception in Organic Mental Defectives: An Exploratory Study[1] II. The Muller-Lyer Illusion

NOEL JENKIN and NOEL IRELAND WEST

The first article in this series (Jenkin & West, 1958) outlined the objectives of the present study, discussed the methodology which relates to the general area involved, and presented some experimental evidence concerning the size-weight illusion. Since a general introduction has already been given, the present paper will deal specifically with an experiment in which responsiveness to the Muller-Lyer illusion was studied under various conditions.

The population examined, again consisted of mentally retarded brain-damaged persons, whose responses were compared with those of normal persons of approximately similar age. The context of theory and experimental evidence concerning perception in the brain-damaged led to an expectation that such persons would differ from normals in degree of susceptibility to the Muller-Lyer illusion. The direction of the difference is not easy to predict. Strauss and Kephart (1955) have depicted the perceptual behavior of organic cases as showing fragmented responses in complex situations, inadequate discrimination and lack of synthesis in some situations where integration of several sources of information is required. This would lead to the expectation that organics would be less responsive than normals to the entire configuration of the Muller-Lyer figure, with a consequent reduction in responsiveness to the illusion.

On the other hand, evidence already exists that in normal children, the tendency to respond to the illusion decreases with age. An extensive study by Walters (1942) of nearly 1700 children aged from six to nineteen years yielded results showing a clear decrement in susceptibility to the illusion between ages six and eleven. This has been recently confirmed by Wapner and Werner (1957) who found a statistically significant developmental trend, the most conspicuous feature of which was a decrease in response to the illusion between ages six and twelve. On the regression hypothesis (Wapner & Werner, 1957), therefore it could be argued that the organic group, functioning at a more primitive level than that of their normal contemporaries, would show **more** susceptibility to the illusion than would be found among the latter.

On the basis of our own observations of brain-damaged children, and also from an examination of the evidence contributed by Strauss and Kephart (1955), we were inclined to prefer the former view, which we would describe as the "stimulus-binding" hypothesis. This predicts that in certain kinds of complex situations, including the one to be described, brain-damaged persons, due to the apparently disarticulated character of their perceptual fields, will perceive in a more veridical manner than normals. A lower mean illusion score was therefore expected from the organic group.

An additional hypothesis concerned the role of distance. Preliminary observation and experiment had suggested that it is easier to escape the compelling influence of the arrow-heads and feather-heads when the figure is inspected from a very short distance. Such a situation seemed to favor a more analytic judgment than was the case when the figure was presented further away. In the latter situation, fewer changes of fixation were necessary to the making of a judgment and there appeared to be a greater tendency to respond immediately to the total situation. The hypothesis was therefore conceived that organic cases, who are peculiarly inclined to respond only to a fragment of a configuration, would make a lower illusion score at a short-range presentation than at a relatively long-range presentation. It was thought that normal cases would follow the same pattern, but to a lesser extent.

Several subordinate variables were included in the design of the experiment. No specific predictions were made about these, but it was expected that incorporation of them in the analysis would lead to a more secure conclusion that any main effects were not due to or confounded with space errors, errors of anticipation or series effects.

Apparatus and Procedure

The apparatus consisted of a 23 cm. horizontal white line with its accompanying arrowheads, painted upon a black ground. On one side of the figure a slider emerged showing another white

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line, this time of variable length, ending in a featherhead. The two parts of the apparatus were mounted on a heavy wooden assembly. The front panel of the assembly measured 60 cm. by 30 cm. Supports at the top and bottom of the apparatus allowed it to be inverted, so enabling the slider to appear on either side. On the reverse of the slider was a scale calibrated in millimeters. The scale was arranged so that a reading of zero indicated physical equality of the two lines. Positive readings indicated response to the illusion i. e., the variable line which ends in a featherhead being made shorter than physical equality.

The task was introduced to the subject by first presenting him with two strips of card, unequal in length. By demonstrating with these, the experimenter determined whether or not the subject understood the concepts of "smaller than," "the same" and "bigger than." If these relationships were not clearly understood, the experimenter used the same materials as an aid in teaching the concepts. The subject was then introduced to the illusion apparatus and demonstrations were conducted with the variable line at its two extreme settings.

When the experimenter was fully satisfied that the task was understood and the response words had the proper meanings for the subject, the test trials began. In each of these the slider was moved in steps of 5 mm., and the subject was required at each step to judge whether the variable line was smaller, equal to or greater than the length of the line between the arrowheads. In determining thresholds, the method of limits was used, as described in Part I of this series.

Each subject made judgments in two sessions which were separated by a day or more. One of these sessions served to secure judgments at the far setting of the apparatus (5 ft. from eyes) and the other provided the near judgments (2 ft. from eyes). Each main group (organic and normal) was subdivided, half of each group making near judgments in Session I and far judgments in Session II. The other half of each group had this order reversed.

For all subjects the first half of the judgments in each session was obtained with the slider on the subject's right. The latter half of the judgments was obtained with the apparatus inverted, so that the slider was on the subject's left. It was realized that this procedure would make it difficult to distinguish any possible space error from the effects of practice. Some simplification of the design was necessary, however, and the position variable was considered to be the least likely source of variance.

One half of the trials for each subject in each session was obtained with the slider moving outwards from an initial setting of the variable line which made it smaller than the fixed line. In the other half of the trials the slider moved inwards from an initial setting larger than the fixed line. In order to distribute the effects of practice over these conditions, an A B B A order was used, starting with the "inwards" direction.

In summary, there were two main groups (organic and normal), two pairs of subgroups (order of experiencing distances), and three pairs of varied conditions (distances, positions, directional movement). Each subject was given five trials (i. e., determinations of his threshold) under each experimental condition, making a total of 40 trials. Since there were 32 subjects, the total number of measures obtained in the experiment was 1280. In the analysis, each subject's performance was reduced to his mean score for each of the eight experimental conditions, giving a total of 256 measures.

The organic group consisted of 16 mentally retarded students at The Training School, each of whom had a past history, or current medically-diagnosed symptoms indicating brain-damage as the cause of retardation. The ages ranged from 10 to 40 with a mean of 21.9 years, and the mental ages ranged from 5 yr. 11 mo. to 11 yr. 2 mo. The control group consisted of 16 normally-achieving students from a local school, plus some employees of The Training School. Ages in this group ranged from 12 to 30 with a mean of 17.6 years.

Results

Table 1 shows the mean error scores for the organic and normal groups under both conditions of directional movement. It should be noted that all values are positive, indicating responsiveness to the illusion. The organic group was, as predicted,

Table 1

Mean Error Scores on the Muller-Lyer Illusion Presented Under Two Different Conditions

Group	Directional Movement		Grand Mean
	Outwards	Inwards	
Normal	2.992	2.102	2.547
Organic	3.179	0.720	1.949
Grand Mean	3.085	1.411	

somewhat less responsive to the illusion than the normal group. A more striking difference is revealed by the means for the two conditions of directional movement. The difference between the "Inwards" and "Outwards" measures represents the tendency of both groups to make a judgment of equality relatively early in the trial. The organic group was very much more prone to make this kind of error than was the normal group.

Preliminary analysis established the fact that Order of Distances was nonsignificant and had no significant interactions with the other variables. This left four main sources to be studied, Groups, Distances, Positions and Directional Movement. The results of an analysis of variance of the data so classified will be found in Table 2. This indicates that the major source of variance is Directional Movement. This variable is significant at a very high level of confidence, and so is the Groups by Movement interaction. The main hypothesis, that organics would show less response to the illusion than the normals, is tested by the Groups over Subjects Mean Squares. The resulting F ratio of 2.75 closely approaches significance by a one-tail test at P = .05. Since this difference between groups is not large, it must be concluded that there is only limited support for the hypothesis.

Tab'e 2
Analysis of Variance of Muller-Lyer Error Scores

Source	df	Mean Square	F
Groups (G)	1	22.878	2.75
Subjects	30	8.326	
Distances (D)	1	1.117	1.16
Positions (P)	1	3.197	3.33
Directional Movement (M)	1	179.375	186.85*
D x G	1	0.159	—
D x P	1	0.141	—
D x M	1	0.123	—
G x P	1	0.047	—
G x M	1	39.384	41.03*
P x M	1	0.436	—
D x G x P	1	2.413	2.51
D x G x M	1	0.183	—
G x P x M	1	0.018	—
D x P x M	1	0.101	—
D x G x P x M	1	0.505	—
Residual	210	0.960	

* P<.001 (two tail)

The hypothesis that a Groups by Distances interaction would be found receives no support. No differences were found between the two distances for either group. A slight difference was found between the two positions (variable right versus left) in the direction of a larger mean response to the illusion when the slider was placed on the left. As pointed out earlier, it is not possible in any decisive way to distinguish the space error from the practice effect in this result. It may be noted, however, that within sessions the change from right to left resulted each time in an increased mean. The difference between Part II of Session I and Part I of Session II, involving a change from left to right, was in the direction of a decreased mean. This was true of both groups, but true to a greater extent in the case of the organic group. The latter made the largest increase in score from right to left when the apparatus was at the farthermost distance. The overall pattern suggests that a space error rather than practice influences the scores, and that the space error affects the organics more than the normals.

Since there is a fairly wide range of ages in both groups and since evidence has been cited above which indicates a developmental relationship between age and responsiveness to the illusion, one further analysis was performed. Rank correlations were computed, separately for each group, between age and mean error scores. The coefficients were virtually zero, being .04 for the normal group and —.05 for the organic group. The correlation between mental age and mean error score for the organic group was exactly zero.

Discussion

A difference in degree of responsiveness to the illusion was found between the two groups in the expected direction of a lower mean score by the organics. In view of the slight extent of the difference, coupled with the fact that competing hypotheses can with equally good logic predict differences in opposite directions, the writers can place little confidence in the present finding. In this connection it should be noted that the prediction about differential effects of distance on the two groups was not confirmed.

The one outstanding result from the experiment was not predicted but is of considerable interest. The highly significant interaction between Groups and Directional Movement is a finding of some importance for two reasons. First, Directional Movement inwards and outwards of the variable

line provides a difference score which is a good discriminator of organic mentally retarded persons from normals. Further work may lead to this variable being used as a diagnostic device. Second, the finding raised a theoretical issue: Why do organic retardates respond with larger difference scores than those of normals?

Post hoc speculation leads us to suggest that the answer to this question lies in the dimensions of the difference threshold for the organic group. We suppose, to put the matter in psychophysical terms, that the organics have a larger difference between upper and lower thresholds and hence a larger Just Noticeable Difference (JND) than is the case with normals. To express the matter another way, the organics are less sensitively tuned to incoming stimuli and hence have a broader band-width of response to a given stimulus value. The conclusion that organic cases are less able than normals to discriminate small differences should occasion no surprise. Indeed, the present result could have been predicted in advance had we happened to think of the connection between discriminative sensitivity and the kind of subject error which might have been expected from the Directional Movement variable.

A further observation in regard to Directional Movement was that little difference occurred between the mean scores of the organics and normals for the "outwards" direction, but a substantial difference occurred for the "inwards" direction. Whether this effect is due to some unrecognized artifact of the experiment or has some psychological significance is a matter which can only be determined by further study.

Some concluding remarks may be directed back to the principal hypothesis of this experiment and the slight support given to it by the data. In the introduction to this article, two competing hypotheses were mentioned, one styled the "stimulus-binding" hyopthesis, initially preferred by the present writers, and the other called (after Wapner and Werner) the "regression" hypothesis. In organics, as compared with normals, the former hypothesis predicts less response to the illusion and the latter predicts more. In the light of the present study it is now suggested that both tendencies may actually exist, working in antithesis, with the end result that organics do not differ very much from normals in their average response to the Muller-Lyer Figure.

These considerations lead to a new hypothesis. If responsiveness to the illusion is related to development and if, as the present experiment suggests, organics are less susceptible to the illusion than are normals, it is probable that differences between groups will be maximal at the younger age levels. An interaction between age groups and diagnostic groups might be expected, with organics showing either less pronounced change with increasing age than do normals, or a change in the opposite direction. A study which will compare such trends is in progress at the Vineland laboratory.

Summary

An experiment was conducted in which responsiveness to the Muller-Lyer illusion was measured under three pairs of experimental conditions. Cases classified as brain-damaged were, on the average, somewhat less responsive to the illusion than normal persons. The brain-damaged group differed substantially from the normal group in the degree of difference between "inwards" judgments and "outwards" judgments. This error, relatively large in the brain-damaged group, was interpreted as indicating a general insensitivity of discrimination, probably not specific to the Muller-Lyer illusion. The data are discussed in relation to two different theoretical positions, each of which attempts to account for anomalous perceptual behavior in brain-damaged persons.

1. This investigation was supported in part by Research Grant No. M-1394 from the Natinoal Institutes of Health, United States Public Health Service.

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Mental Development of A Hydrocephalic

MILDRED B. MITCHELL and ZYGMUNT A. PIOTROWSKI

George was the first born of very intelligent parents, both graduates of eastern colleges. The father is a successful engineer. The mother is interested in teaching and has had some business experience. George suffered a birth injury and was diagnosed (with the aid of air studies) as a case of congenital hydrocephalus by several leading specialists. At 16 months, his condition was diagnosed as a spontaneously arrested hydrocephalus. At the age of 16 years, the boy is in good physical health. One physician who examined the boy in infancy recommended that the parents send him to The Training School at Vineland, have another child, and forget about George. The mother rejected this advice completely. She has devoted her life to instructing George; her persistent and patient efforts which continue have no doubt significantly contributed to the boy's mental development and achievement. When George was 3½ years, a brother was born. The birth and growth of this brother have been normal and he has been always a healthy, active, and intellectually very superior child. The brother obtained, at the age of 12 yrs. 4 mos., a quotient of 126 on the verbal and a quotient of 124 on the non-verbal Wechsler-Bellevue intelligence tests. Moreover, the brother's performance on the sub-tests was even. The brother's performance was in marked contrast to that of George on the same tests.

We have been unable to find any intelligence tests follow-up of a hydrocephalic of such long duration and with such consistent rise of the IQ. Repeated examinations of children suffering from congenital brain injuries are rare. George is unusual by the mild intellectual defect, his good physical and lasting health (no seizures), and the high level he has gradually reached on intelligence tests and in school achievement. His head is large. His eyes have been normal except for a slight astigmatism. His hydrocaphalus was apparently mild and the recovery from it remarkably good. Most arrested hydrocephalics improve. They become friendly, sociable and seem eager to adjust to others. They gain in intellectual skills but rarely to the degree which has been reached by George during the first 16 years of age. George is outgoing and friendly. He has active plans for the future.

George was four years old before he spoke a word. Many heartbreaking months were devoted to teaching him to do such non-verbal tasks as tying his shoe laces. By giving his birthdate as a year later than it was, the mother was finally able to get him admitted to a private kindergarten where he could be with other children. By the age of eight, he was accepted in a public school, and now at the age of sixteen, he is making a **B** average in the eighth grade. His speech is now precise to the point of peing pedantic.

Although the parents did not accept the physician's advice to place George in an institution, they have sought the professional services of a psychologist seven times in fifteen years.[1] Table I gives the numerical results of the intelligence tests, showing a steady development in the verbal sphere, but a continued deficiency in the non-verbal sphere. A steady and really remarkable increase in Vocabulary is shown in Table II. Reading achievement is consistent with the vocabulary development. At C.A. 10 yr. 10 mo., he showed very satisfactory progress in reading, scoring as well as the average student finishing a good third grade, according to the Gray Oral Reading Paragraphs. Five and one half years later, he scores above the eighth grade norms on the same test. While there is some irregularity in his performance on this test, his rapid and accurate pronunciation of words, which cause most adults to stumble, was truly amazing. For instance, he read the paragraph at the twelfth grade level quickly and with only one error.

George does, of course, still have some marked deficiencies. His parents realized this and sought psychological help in planning his future education and vocation. His father, for instance, wanted to know if he should try to train him in auto mechanics. His mother wondered if he could do college work and become a teacher. The poor I.Q. on the performance scale of the Wechsler-Bellevue (Table I), the very defective score on Object Assembly (Table III), low mechanical interest (Table IV), the very defective score on Space Relations and relatively low score on Mechanical Reasoning (Table V) all tend to indicate that

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George cannot follow in his father's footsteps to become an engineer, nor should he be subjected to the humiliating experiencing of attempting to become a mechanic. George's verbal facility in contrast to his defective form perception is well exemplified in his own apt description of his production on the Feature Profile part of the Object Assembly Test of the Wechsler-Bellevue as an "unrecognizable form."

George's school achievement has been as unexpected as his intellectual development. As mentioned previously, he has been making a B average in eighth grade, he has a superior vocabulary and his reading ability is excellent. His language usage is also superior (See Table V, Spelling and Sentences). George has recently achieved some distinction in his school by scoring 13 points higher than the second best on an all pupil test in History. This was especially gratifying to George and his mother because George's only sibling at C.A. 12 yrs. is an A student in Grade 7 and has interests and abilities similar to his father's. George knows that he cannot qualify for admittance to the Naval Academy, but he is going to attempt an academic high school course in preparation for attending a small midwestern liberal arts college.

Who would have predicted this amazing development in a child who did not talk until the age of four and still obtained an I.Q. of only 62 at the age of six? Of course, not many hydrocephalics have parents of such superior intelligence nor mothers with the persistence and devotion to teach such a child. Nevertheless, if even one such child can make such an improvement on intelligence tests and such school achievement, it should temper our predictions for other hydrocaphalics.

Table I
Intelligence Test Results

C.A.	Test	Development or Intelligence Quotient
1 yr. 4 mo.	Kuhlman for Infants	63
6 yr. 2 mo.	Stanford-Binet Form L	62
7 yr. 2 mo.	Stanford-Binet Form L	70
8 yr. 2 mo.	Stanford-Binet Form L	76
9 yr. 4 mo.	Stanford-Binet Form L	82
10 yr. 10 mo.	Stanford-Binet Form L	94
16 yr. 3 mo.	Wechsler-Bellevue Form I	86
	Verbal	106
	Performance	67

Table II
Vocabulary Test Results

C.A.	Test	Vocabulary Quotient
8 yr. 2 mo.	Terman	82
9 yr. 4 mo.	Terman	86
10 yr. 10 mo.	Terman	92
16 yr. 3 mo.	Wechsler-Bellevue	123

Table III
Wechsler-Bellevue Form I

Test	Weighted Score
Information	15
Comprehension	10
Digits	9
Arithmetic	10
Similarities	7
Vocabulary	13
Picture Arrangement	8
Picture Completion	7
Block Design	7
Object Assembly	0
Digit Symbol	6

Table IV
Kuder Preference Vocational Form CH

Interest	Percentile
Outdoor	76
Mechanical	8
Computational	59
Scientific	19
Persuasive	42
Artistic	70
Literary	94
Musical	49
Social Service	28
Clerical	69

Table V
Differential Aptitude Tests

Test	Percentile
Verbal Reasoning	55
Numerical	70
Abstract Reasoning	3
Space Relations	1
Mechanical Reasoning	35
Clerical	25
Spelling	90
Sentences	75

1. The first six examinations were made by Dr. Piotrowski and the seventh by Dr. Mitchell.

An Exploratory Prognostic Study of Unauthorized Absences from Pacific State Hospital[1]

CHARLES WINDLE

Prediction is valuable practically and theoretically. Practically, one can improve administration by planning more accurately and by employing such techniques as selection to increase efficiency. Theoretically, one can identify relevant factors and relationships. The present study is concerned with identifying characteristics which lead to satisfactory extra-mural adjustment of mental defectives. As part of a larger program investigating the movement of the patient population at Pacific State Hospital for mental defectives, patients placed on unauthorized absence (informally miscalled "escapes" or "elopements") from the hospital were studied. During fiscal years 1952-54, 120 patients were placed on unauthorized absence, some of them several times. Only the first unauthorized absence for each subject within this time period was studied. These unauthorized absences are of two general types:

(a) occasions on which the patient absented himself from the hospital, and

(b) occasions on which the patient failed to return on schedule to the hospital from a visit or leave or when an extra-mural guardian (e. g., parent, vocational leave caretaker, or social worker) reported the patient absent from his proper leave location.

As has been found true elsewhere (Thorne, 1947), most patients placed on unauthorized absence from Pacific State Hospital are returned quickly to the hospital. Over a third (37%) were returned within a week and another 19% within a month. The rest (44%) managed to remain outside the hospital for over a month.[2] They maintained this extra-institutional adjustment in spite of the fact that the Sheriff's Office was notified of each escape and requested to return the patient to the hospital.

For the purposes of this paper, patients who remained out of the hospital for over a month will be considered successes; those who were returned within a month will be called failures. It should be observed that this classification is from the point of view of the patient who chose to absent himself, not the hospital which opposed the departure.

Comparisons between the successful and the failing unauthorized absentees were made on six characteristics: type of absence, age, length of hospitalization, sex, IQ, and number of previous escapes. The Chi-square statistic corrected for continuity was used to estimate statistical significance.

Results

1. **Type of unauthorized absence.** Unauthorized absences from visits or leaves were more frequently of long duration than those from the hospital (see Table 1). The difference between proportions is significant to the .01 level. Probably primary reasons for this difference are that on absences from outside the hospital (a) parents are more likely to be in collusion with the patient, and (b) reporting of unauthorized absences is lax. Parents are likely to wait a few days after an unauthorized absence to see if the patient would return. Thus, the large number of overnight absences will not be reported from homes as they are from the hospital. Since the return rate of the unauthorizedly absent decreases with time, a bias in delaying to report unauthorized absences would make a higher proportion of those reported of long duration.

Table 1
Prognostic Significance of Various Characteristics for Patients on Unauthorized Absence from Pacific State Hospital in Fiscal 1952-54

Prognostic Characteristic	% of 67 Patients Rehospitalized within a Month	% of 53 Patients Remaining Extra-Mural for a Month	Probability of Differences in Proportions (X^2)
Unauthorized Absence from Visit or Leave	16.4%	39.6%	<.01
19 or more years old	47.8%	60.4%	<.30>.20
Less than 4 years Hospitalization	50.7%	56.6%	>.50
Female	13.4%	30.2%	<.05
IQ<60	38.8%	39.6%	>.50
Previous Unauthorized Absences	47.8%	69.8%	<.05

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2. **Age.** There is no significant relationship between age and duration of unauthorized absence. Previous studies (Hartzler, 1951; Hartzler, 1953; Whitney, 1948) have reported age prognostically favorable for discharged patients. Patients going on unauthorized absences tend to be younger than patients released on officially approved leaves (Windle & Dingman, 1958). Further, the criterion of success in the present study differs from that used with discharged patients.

3. **Length of hospitalization.** There is no significant relationship between length of hospitalization and duration of unauthorized absence.

4. **Sex.** There is a marked tendency for females to stay out on unauthorized absence longer than males. This is related to the tendency for patients unauthorizedly absent from visits or leaves to remain out longer than patients from the hospital. Proportionately, females tended to go on unauthorized absence from visits and leaves while males left from the hospital ($X^2 = 6.02$; $P<.02$).

5. **IQ.** There is no significant relationship between duration of unauthorized absence and IQ.[3] This is consistent with the results from most studies of leave or discharged mental defective patients (Harold, 1955; Hegge, 1944; Kinder, Chase & Buck, 1941; Tarjan & Benson, 1953; Wolfson, 1956) and the finding that patients on unauthorized absence do not differ in IQ from patients released on hospital approved leaves (Windle & Dingman, 1958).

6. **Number of previous unauthorized absences.** Patients with no previous unauthorized absences tend to be returned from unauthorized absence quickly; those with previous unauthorized absences tend to remain out of the hospital for over a month. The digerence between these proportions is significant to the .05 level. The experience of running away may be instructive, teaching the patient how to avoid apprehension by the authorities.

7. **Interaction between IQ and length of hospitalization.** Prognostic studies with psychotics have suggested that cognitive functioning may be positively related to outcome among acutely ill patients but negatively related to outcome among chronically ill patients (Windle, 1952; Windle & Hamwi, 1953). To determine whether duration of hospitalization similarly alters the prognostic significance of cognitive functioning among mental defectives, the sample of unauthorized absences was divided into eight subgroups; the results of dichotomizing admission at Pacific State Hospital into more than or less than four years prior to the unauthorized absence, outcome into more than or less than one month extra-mural adjustment and intelligence test score into higher or lower than 63. This yields the 2 x 2 x 2 distribution shown in Table 2. Tested for statistical significance according to Snedecor (1946), the relationship between

Table 2
Interaction between Prognostic Significance of Intelligence Test Score and Length of Hospitalization

	Admitted to PSH 4 or More Years Ago		Admitted to PSH Less Than 4 Years Ago	
Intelligence Test Score	No. Rehospitalized within a Month	No. Extra-Mural for a Month	No. Rehospitalized within a Month	No. Extra-Mural for a Month
63 or more	16	6	18	20
less than 63	17	17	16	10

$X^2 = 2.60$ $\quad df = 1$
$P < .10 > .05$ (one-tailed)

outcome and intelligence cannot be said to vary significantly with length of hospitalization. However, there does appear to be a tendency in the hypothesized direction which, on an exploratory level, should not be ignored. Considering the coarseness of the measures used, and the small sample studied, lack of statistical significance for a relatively weak relationship would not be surprising.

Discussion

What do these findings suggest? Of the factors investigated here the most important seems to be mode of becoming classified as unauthorizedly absent. When a patient runs away from the hospital his chances of immediate return are great, whereas if he (or she, as is proportionately most likely) is absent without authorization while on a visit or leave, he (or she) is likely to remain out for over a month. The experience of having been previously unauthorizedly absent is also favorable for remaining out of the hospital for over a month. This may indicate that the more delinquent the patient is, as defined by previous unauthorized absences, the less likely he is to go home or someplace where he can easily be apprehended and returned to the hospital.

Summary

One hundred twenty patients on authorized absence from Pacific State Hospital were divided into those remaining on unauthorized absence for over a month and those returned to the hospital within a month. These "outcome" groups were compared in pre-unauthorized absence hospital-leave or visit status, age, length of hospitalization, sex, IQ, previous unauthorized absences, and interaction between IQ and length of hospitalization. Those remaining outside the hospital over a month significantly more often took unauthorized leaves from visits or leaves than from the hospital, were female, and had previous unauthorized absences. There was borderline significance to the prognostic efficacy of the interaction between IQ and length of hospitalization.

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2. This includes three cases about whom no follow-up information was available.

3. Determined from either the Wechsler-Bellevue or the Stanford-Binet, depending upon which was administered most recently before the unauthorized absence.

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